
JOINT USERS RESOURCE ALLOCATION PLANNING
(JURAP) MEETING
NOVEMBER 15, 2001

**Jet Propulsion Laboratory**
California Institute of Technology

4800 Oak Grove Drive
Pasadena, CA 91109-8099

(818) 354-4321

November 21, 2001
Refer to: 930-01-019-ESB/JV:lc

TO: Distribution

FROM: Eugene S. Burke

SUBJECT: Minutes for the Joint Users Resource Allocation Planning Committee Meeting held November 15, 2001.

**NEXT JURAP MEETING:**

**Thursday, January 17, 2002**
**JPL Bldg. 303, Room 411 B 1:00 p.m.**

***NOTE: THERE WILL BE NO JURAP MEETING IN DECEMBER***

Attendees:

| | | | |
|---|---|---|---|
| R. Bartoo | D. Holmes | M. Medina | E. Smith |
| G. Burke | K. Kim | D. Morris | J. Valencia |
| B. Compton | N. Lacey | K. Moyd | S.Waldherr |
| D. Doody | K. Martinez | B. Ryan | I.J. Webb |
| J. Hall | G. Martinez | M. Slade | |

The Joint Users Resource Allocation Planning Committee meets monthly to review the status of Flight Projects, the requirements of other resource users, and to identify future requirements and outstanding conflicts. The last regular meeting was held on November 15, 2001 at the Jet Propulsion Laboratory.

***Introductory Remarks / Conflict Resolutions - E. Burke***

Gene welcomed everyone to the JURAP meeting and talked about his recent business trip to Goddard and his meetings with various mission managers and project schedulers. Goddard has an interest in establishing a resource allocation and review process similar to JPL's Resource Allocation Review Board (RARB). The IMAGE project extended mission is concerned with 34m S-band antenna downtimes in late 2002. Some projects have budget concerns and are studying the possibility of reducing operations manning to cut costs. A number of ISTP projects complained about receiving corrupted real-time data during the Madrid support this past month. S. Waldherr stated that the data lines from JPL to Madrid ("Big Pipe and Little Pipe") might have caused the data outages, but that the data is recoverable from the Central Data Recorder (CDR).

### *RARB Action Items – D. Morris*

A summary of the 10 Action Items (AI) assigned at the August 2001 RARB showed that Action Items #1 through #5 have been closed. Action Item #6 remains open. Action Item #7 remains open, and a review is planned for October 2002, to discuss possible landing sites and to develop a better understanding of the landing coordinates. Action Item #8 status is pending. Action Item #9 remains open. I.J. Web added that Ulysses would accept gaps to facilitate the closure of Action Item #10.

### *Resource Analysis Team – K. Kim*

Ongoing activities include MADB/TIGRAS testing and training. Special load studies in progress include the Galileo extended mission and Genesis back-up return study. The February RARB package was posted to the Resource Allocation and Planning web page. The deadline for projects to provide RARB input was November 19, 2001. As of today, only one project has responded.

### *DSS Downtime Forecast – J. Valencia*

DSS-16 is scheduled for downtime from November 19 to December 18, 2001 for the servo drive replacement task. DSN scheduling successfully negotiated with the affected projects and added two additional days, increasing the downtime to 30 contiguous days. The major antenna downtimes scheduled in 2002 include 20kW transmitter installations and Ka-band encoder upgrades at the 34m stations.

### *Goldstone Solar System Radar – M. Slade*

External peers have reviewed the Messenger mission observations and its science goals. The initial tests require two-station observations between DSS-14 and the 100m Greenbank Telescope. Dates have been submitted to Resource Allocation and Planning for these observations to be held in May and June 2002.

### *Radio Astronomy / Special Activities – G. Martinez*

Three Time and Earth Motion Precision Observation (TEMPO) activities were supported in October with 98% of data time utilized. A Guide Star survey in support of the Gravity Probe-B mission utilized 97% of the track time.

## SPECIAL REPORT

### *JURAP Science Advisor – E. Smith*

An informative lecture was presented on the interpretation of recent science data collected by Pioneer 10 and Ulysses. The data collected by Pioneer 10 showed comparative results with Voyager 1 and 2. Ulysses is nearing completion of its second pass over the Sun. The first pass was during Solar Minimum and the second pass has been during Solar Maximum. The results have provided the science communities a better understanding of solar phenomena.

## FLIGHT PROJECTS REPORTS

### *Cassini – D. Doody*

Excellent support was provided by the DSN this reporting period. The Huygens Probe Relay S-band uplink tests are in progress at DSS-24 and an Emergency Control Center exercise is planned for November 20, 2001. The Gravitational Wave Experiment (GWE) begins this month and is scheduled from November 26, 2001 through January 5, 2002.

### *ISTP, WIND, POLAR, SOHO, GEOTAIL, Cluster II – A. Chang* (S. Waldherr for A.Chang)

SOHO successfully completed a station-keeping maneuver activity and Cluster is studying the feasibility of an extended mission.

### *MAP, ACE, and IMAGE – S. Waldherr*

MAP is in the Science mode and spacecraft operations are normal. The spacecraft entered a safe mode on November 6, 2001. The probable cause was a solar flare event. The project successfully recovered from the safe-mode condition. Demonstration tracks using the UPL command system is on hold because of a UPL D2 software anomaly.

ACE operations are normal and 26m automation demonstration tracks are continuing. Demonstration tracks using the UPL command system are on hold because of a UPL D2 software anomaly.

IMAGE operations are normal and 26m automation demonstration tracks are almost complete. Demonstration tracks using the UPL command system are on hold because of a UPL D2 software anomaly.

HESSI launch is planned for no earlier than January 24, 2001.

### *Ulysses – I.J. Webb*

December 2, 2001 will mark the end of a yearlong nutation support. The uplinking of the "*heater on*" command will terminate nutation support and will end the 24-hour support requirement. A number of antenna and transmitter-related problems were experienced in October. A concern was expressed regarding the deletion of Ulysses support from the long-term schedule after January 2004.

### *Galileo – B. Compton*

Galileo routine activities include propulsion maintenance activities and gyro performance tests. The orbit trim maneuver (OTM-103) was successfully executed, collecting continuous fields and particles data was completed, and the I-32 playback was successfully performed. A tape manager fault protection error occurred on November 13, 2001, locking out subsequent commands. A diagnostic test is being developed for execution on November 14, 2001 to move the tape in the forward direction while collecting tape status and motor current measurements. The next encounter (I-33) is scheduled for January 17, 2001.

***Deep Space 1 (DS1) – K. Moyd***

The second Ion engine test was conducted October 23, 2001. A number of 70m station problems forced the project to use the 34m antennas. Consequently, the project had to turn a number of science instruments off and reduce the downlink data rate. DS1 will not support comet 1999KK1 encounter. Results from the Borrelly encounter will be presented at the Division of Interplanetary Science meeting planned for late November.

***Stardust - R. Ryan***

The spacecraft is healthy and is presently at 3.39 astronomical units (AU) from Earth with a round-trip light time of 56 minutes. DSN support has generally been good this reporting period. An excellent Navigational Camera (NAVCAM) image was collected on October 29, 2001. The Stardust spacecraft is now farther from the Sun than any U.S. Solar powered spacecraft. The Solar panels are performing better than expected. Planning and testing for the Comet Wild-2 encounter is ongoing, with the possibility of using Asteroid Anne Frank to support encounter readiness testing. Superior conjunction will occur on December 25, 2001 and a Trajectory Correction Maneuver-7 is planned for March 13, 2002.

***Voyager – I. J. Hall***

Voyager 1 and Voyager 2 operational status is nominal and overall DSN support is good. Voyager 1 heliocentric distance is 82.9 AU with a round trip light time (RTLT) of approximately 23h 10m. Voyager 2 heliocentric distance is 65.6 AU with a RTLT of approximately 18h 17m. The Voyager 1 tape recorder replay scheduled for October 24, 2001 was not supported because of the Mars Orbit Insertion of the 2001 Mars Odyssey. The tape recorder replay has been rescheduled for November 17, 2001.

No oral presentation was given, but back-up material is included in the web document for:
***DSN Operations – J. Hodder***
***Mars Mission Management Office (MMO) - E. Brower***

No report was given for the following projects:
***Chandra – G. Wright***
***Genesis – N. Lopez***
***MEGA – V. Altunin***

**The next JURAP meeting will be held:**

**Thursday, January 17, 2002, at JPL**
**in Bldg. 303, Room 411, at 1:00 p.m.**

***PLEASE NOTE: THERE WILL BE NO JURAP MEETING IN DECEMBER!***

Note: If you would like to participate in the meeting by teleconferencing, call **(818) 354-2626** and you will be connected.

**ACE**
Afkhami, F. . . . . GSFC m/s 428.2
Machado, M. J. . . . . GSFC m/s 428.2
Myers, D. A. . . . . GSFC m/s 428.2
Sodano, R. J. . . . . GSFC m/s 581.0

**Canberra Deep Space Communications Complex**
Churchill, P. . . . . CDSCC
Jacobsen, R. . . . . CDSCC
O'Brien, J. J. . . . . CDSCC
Ricardo, L. . . . . CDSCC
Robinson, A. . . . . CDSCC
Wiley, B. . . . . CDSCC

**Cassini**
Arroyo, B. . . . . 264-235
Chin, G. E . . . . . 230-310
Doody, D. F. . . . . 230-310
Frautnick, J. C. . . . . 230-301
Gustavson, R. P. . . . . 230-301
Maize, E. H. . . . . 230-104
Mitchell, R. T. (PM) . . . . . 230-205
Webster, J. L. . . . . 230-104

**Chandra**
Gage, K. R. . . . . SAO
Lavoie, A. R. (PM) . . . . . MSFC Org. FD03
Marsh, K. . . . . SAO
Weisskopf, M. C. (PS) . . . . . MSFC Org. SD50
Wicker, D. . . . . SAO
Wright, G. M. . . . . MSFC Org. FD03

**Deep Space 1**
Hunt, J. C. . . . . 230-207
Moyd, K. I. . . . . 230-207
Rayman, M. D. (PM) . . . . . 230-207
Tay, P. . . . . 264-235
Yetter, K. E. . . . . 264-235

**DSMS / Mission Management Office**
Rosell, S. N. . . . . 264-235
Varghese, P. . . . . 264-235

**Europa**
McNamee, J.B. (PM) . . . . . 301-335
Simpson, K.A. . . . . 301-335

**Galileo**
Compton, B. . . . . 230-102
Huynh, J. C. . . . . 230-102
McClure, Jr., J. R. . . . . 230-102
Medina-Gussie, M. . . . . 301-371
Paczkowski, B. G. . . . . 230-260
Pojman, J. L. . . . . 238-538
Theilig, E. E. (PM) . . . . . 264-525

**Genesis**
Arroyo, B. . . . . 264-235
Burnett, D. S. . . . . CIT 170-25
Hirst, E. A. . . . . 301-180
Sasaki, C. N. (PM) . . . . . 264-370
Sweetnam, D. N. . . . . 264-370
Tay, P. . . . . 264-235
Yetter, K. E. . . . . 264-235

**Goldstone Deep Space Communications Complex**
DePriest, M. . . . . DSCC-37
Holmgren, E. . . . . DSCC-25
Massey, K. . . . . DSCC-61
McConahy, R. . . . . DSCC-33
McCoy, J. . . . . DSCC-57
Sturgis, L. . . . . DSCC-33

**Goldstone Orbital Debris Radar (GODR)**
Goldstein, R. M. (PM) . . . . . 300-227

**Goldstone Solar System Radar (GSSR)**
Haldemann, A. F. . . . . 238-420
Hills, D. L. . . . . 238-420
Ostro, S. J. (PS) . . . . . 300-233
Slade, III, M. A. (PM) . . . . . 238-420
Wolken, P. R. . . . . 507-105

**Gravity Probe-B**
Keiser, M. (PS) . . . . . Stanford Univ.
Shapiro, Prof. I. I. . . . . Harvard Univ.

**IMAGE**
Abramo, C. A. . . . . 507-120
Burley, R. J. . . . . GSFC m/s 632.0
Green, J. L. . . . . GSFC m/s 630

**IPN-ISD / General**
Doms, P. E. . . . . 303-400
Polansky, R. G. . . . . 303-400
Stelzried, C. T. . . . . 303-407
Webber, III, W.J. . . . . 303-400

**IPN-ISD / DSMS Engineering**
Freiley, A. J. . . . . 303-404
Kimball, K. R. . . . . 303-404
Klose, J. C. . . . . 303-404
Kurtik, S. C. . . . . 303-210
Osman, J. W. . . . . 303-210
Sible, Jr., R. W. . . . . 303-404
Statman, J. I. . . . . 303-404

**IPN-ISD / DSMS Operations**

Almassy, W. T. . . . . 502-420
Berman, A. L. . . . . 303-403
Covate, J. T. . . . . 507-120
Dillard, D. E. . . . . 507-120
Frazier, R. . . . . 507-120
Gillam, I. T. . . . . 502-400
Green, J. C. . . . . 507-120
Hodder, J. A. . . . . 303-403
Knight, A. G. . . . . 507-120
Landon, A. J. . . . . 507-105
Martinez, G. . . . . 507-120
Nevarez, R. E. . . . . 502-400
Recce, D. J. . . . . 303-403
Roberts, J. P. . . . . 502-400
Salazar, A. J. . . . . 303-403
Schroeder, H. B. . . . . 507-120
Short, A. B. . . . . 507-120
Wackley, J. A. . . . . 303-403
Waldherr, S. . . . . 507-120
Watzig, G. A. . . . . 502-420
Wert, M. . . . . 502-420

**IPN-ISD DSMS Plans & Commitments**

Abraham, D. S. . . . . 303-402
Altunin, V. I. . . . . 303-402
Bathker, D. A. . . . . 303-402
Benson, R. D. . . . . 303-402
Beyer, P. E. . . . . 303-402
Black, C. A. . . . . 303-402
Cesarone, R. J. . . . . 303-402
Chang, A. F. . . . . 303-402
Gillette, R. L. . . . . 303-402
Griffith, D. G. . . . . 303-402
Holmes, D. P. . . . . 303-402
Kazz, G. J. . . . . 303-402
Luers, E. B. . . . . 303-402
Miller, R. B. . . . . 303-402
Peng, T. K. . . . . 303-402
Poon, P. T. . . . . 303-402
Slusser, R. A. . . . . 303-402
Wessen, R. R. . . . . 303-402
Yetter, B. G. . . . . 303-402

**IPN-ISD / DSMS RAPSO**

Bartoo, R. H. . . . . 303-403
Borden, C. S. . . . . 301-165
Burke, E. S. . . . . 303-403
Caputo, R. . . . . 514-200
Hampton, E. . . . . 600-174
Hincy, W. . . . . 600-174
Hungerford, R. M. . . . . 303-402
Kehrbaum, J. M. . . . . 301-180
Kim, K. . . . . 600-174
Lacey, N. . . . . 600-174
Leppla, F. B. . . . . 600-174
Lineaweaver, S. . . . . 600-174
Martinez, K. A. . . . . 600-174
Morris, D. G. . . . . 303-403
Valencia, J. . . . . 600-174
Wang, Y-F. . . . . 301-165
Zendejas, S. C. . . . . 301-165

**ISTP (Cluster II)**

Abramo, C. A. . . . . 507-120
Christensen, J. L. . . . . GSFC m/s 404.0
Dutilly, R. N. . . . . GSFC m/s 581.1
Gurnett, D. . . . . U. of Iowa
Mahmot, R. E. (Acting PM) . . . . . GSFC m/s 444.0
Pickett, J. . . . . U. of Iowa

**ISTP (GEOTAIL/POLAR/SOHO/WIND)**

Abramo, C. A. . . . . 507-120
Alexander, H. . . . . 502-320
Bush, R. I. . . . . Stanford Univ.
Carder, M. E. . . . . GSFC 450.C
Dutilly, R. N. . . . . GSFC m/s 581.1
Hearn, S. P. . . . . GSFC m/s 450.C
Mahmot, R. E. . . . . GSFC m/s 444.0
Milasuk-Ross, J. . . . . GSFC m/s 428.5
Miller, K. A. . . . . GSFC m/s 450.C
Mish, W. H. . . . . GSFC m/s 690.0
Nace, E. M. . . . . GSFC m/s 450.8
Pukansky, S. M. . . . . GSFC m/s 450.C

**JPL/General**

Burgess, L. N . . . . . 230-107
Burton, M. E. . . . . 169-506
Finley, S. G. . . . . 11-116
Gershman, R. . . . . 264-440
Holladay, J. A. . . . . 303-404
Jurgens, R. F. . . . . 238-420
Kahn, P. B. . . . . 301-486
Kliore, A. J. . . . . 161-260
Kobrick, M. . . . . 300-233
Moore, W. V. . . . . 161-260
Morabito, D. D. . . . . 161-260
Naudet, C. J. . . . . 238-600
Resch, G. M. . . . . 238-600
Robbins, P. E. . . . . 161-260
Silva, A. . . . . 149-200
Smith, J. L. . . . . 301-180
Taylor, A. H. . . . . 264-538
Toyoshima, B. . . . . 301-276
Winterhalter, D. . . . . 169-506
Woo, H. W. . . . . 126-110
Yung, C. S. . . . . 238-808

**Madrid Deep Space Communications Complex**

Chamarro, A. . . . . MDSCC
Rosich, A. . . . . MDSCC

**MAP**
Abramo, C. A. . . . . 507-120
Citrin, E. A. (PM) . . . . . GSFC m/s 410.2
Coyle, S. E. . . . . GSFC m/s 581.0
Dew, H. C. . . . . GSFC m/s 423.0

**Mars Exploration Rover (MER A & B)**
Adler, M. . . . . T-1723
Arroyo, B. . . . . 264-235
Crisp, J. A. (PS) . . . . . T-1722
Erickson, J. K. . . . . T-1723
Ludwinski, J.B. . . . . T-1722
Roncoli, R. B. . . . . 301-140L
Theisinger, P. C. (PM) . . . . . T-1722

**Mars Express Orbiter**
Horttor, R. L. (PM) . . . . . 238-540
Thompson, T. W. . . . . 300-227

**Mars Global Surveyor**
Albee, A. (PS) . . . . . 264-282
Arroyo, B. . . . . 264-235
Brower, E. E. . . . . 264-235
Thorpe, T. E. (PM) . . . . . 264-214
Yetter, K. E. . . . . 264-235

**Mars Program Office**
Cutts, J. A. . . . . 264-426
Jordan, Jr., J. F. . . . . 264-472
McCleese, D. J. . . . . 264-426
Naderi, F. M. . . . . 264-438

**Mars Reconnaissance Orbiter Project**
Arroyo, B. . . . . 264-235
Graf, J. E. (PM) . . . . . 264-440
Johnston, M. D. . . . . 301-140L
Lock, R. E. . . . . 301-140L

**Mars 2001 Odyssey Mission**
Arroyo, B. . . . . 264-235
Harris, J. A. . . . . 301-455
Landano, M. R. (PM) . . . . . 264-725
Mase, R. A. . . . . 264-380
Saunders, R. S. (PS) . . . . . 180-701
Spencer, D. A. . . . . 264-255

**NASA Headquarters**
Costrell, J. A. . . . . Code MT
Geldzahler, B. . . . . Code SR
Hertz, P. . . . . Code SR
Holmes, C. P. . . . . Code SR
Spearing, R. E. . . . . Code M-3

**NASA/ARC/General**
Campo, R. A. . . . . ARC 244-14

**NASA/GSFC/General**
Barbehenn, G. M. . . . . GSFC m/s 440.8
Levine, A. J. . . . . GSFC m/s 452.0
Martin, J. B. . . . . GSFC m/s 451.0

**NASA/SOMO**
Dalton, J. T. . . . . GSFC m/s 720.0
Dowen, A. Z. . . . . 303-400
Hall, V. F. . . . . JSC Code TG
Morse, G. A. . . . . JSC Code TA
Thompson, E. W. . . . . JSC Code GA

**NOZOMI (Planet B)**
Tay, P. . . . . 264-235
Yetter, K. E. . . . . 264-235

**Radio Astronomy**
Klein, M. J. (PM) . . . . . 303-402
Kuiper, T. B. (PS) . . . . . 169-506
Martinez, G. . . . . 507-120
Wolken, P. R. . . . . 507-105

**Space Infrared Telescope Facility (SIRTF)**
Arroyo, B. . . . . 264-235
Ebersole, M. M. . . . . 264-767
Gallagher, D. B. (PM) . . . . . 264-767
Kwok, J. H. . . . . 264-767

**StarLight Mission**
Deutsch, M. C. . . . . 301-250D
Livesay, L. L. (PM) . . . . . 301-451
Spradlin, G. L. . . . . 303-402

**Stardust**
Duxbury, T. C. (PM) . . . . . 264-379
Ryan, R. E. . . . . 301-285
Tay, P. . . . . 264-235
Yetter, K. E. . . . . 264-235

**Ulysses / Voyager**
Bray, T. L. . . . . 264-114
Brymer, B. F. . . . . 264-114
Cummings, A. C. . . . . CIT 220-47
Hall, Jr., J. C. . . . . 264-801
Massey, E. B. (PM) . . . . . 264-801
Nash, J. C. . . . . 264-114
Smith, E. J. (PS - ULS) . . . . . 169-506
Stone, E.C. (PS - VGR) . . . . . CIT 220-47
Webb, I. J. . . . . 264-114

**U.S. Space VLBI**
Altunin, V. I. . . . . 303-402
Miller, K. J. . . . . 264-828
Preston, R.A. (PS) . . . . . 238-332
Smith, J. G. (PM) . . . . . 264-828

**Other Organizations**

Crimi, G. F. . . . . SAIC
Laemmel, G. . . . . DLR-GSOC
Wanke, H. . . . . DLR-GSOC

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**Please mark any additions, deletions, or corrections to this distribution list and return to:**

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*JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE*

# Action Item Status From 21 August 2001 RARB

**David G. Morris**

**November 15, 2001**

# Action Item Summary

| *AI#* | *CP#* | *Year* | *Month(s)* | *Week(s)* | *Subnet* | *System* | *Responsible* | *Due Date* | *Status* |
|---|---|---|---|---|---|---|---|---|---|
| **01** | **All** | **2003** | **pre-Nov. '03** | **All** | **All** | **DSS** | **A. Salazar** | **10/21/2001** | **Closed** |

ACTION: DSMS Operations Office shall assess the overall impact of the recommendations to reduce Preventative Maintenance on the all Subnets and to provide the Resource Allocations Planning Team with a risk and budgeting assessment of whether additional maintenance hours are needed. The board noted that many of the Contentions identified in 2003 use DSS Maintenance to relieve the over-subscription and requested that they evaluate the readiness needed to prepare for the expected sustained high use in late 2003 through early 2004. This action should reference the opportunity to perform maintenance activities during extended downtime for all antennas in the nine-month period in late 2002 through early 2003.

RESPONSE: DSS Maintenance will accept the agreements made at the August RARB. They will continue to monitor the level of maintenance at the antennas.

# Action Item Summary

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 02 | N/A | N/A | | | 70M | SVLB | V. Altunin | 10/21/2001 | Closed |

ACTION: Request change of name from Space VLBI to something without the word Space. The name causes confusion between two separate but required activities. One is to provide support to an orbiting spacecraft (HALCA, a.k.a. VSOP); the DSN uses 11 meter and 26 meter antennas to track the spacecraft. The second is to co-observe the same radio source as the spacecraft with ground-based radio telescopes; the DSN currently supports using 70-meter antennas at certain frequencies.

RESPONSE: The name has changed to Mission Enhancement by Ground-based Astronomy (MEGA). Currently, the PSLA for this ground-based activity shows requirements to support HALCA through 2/1/02 and FAME in 2002-2005.

# Action Item Summary

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 03 | 14 | 2003 | June – July | 26-29 | 34H | MER B | J. Erickson | 9/21/2001 | Closed |

ACTION:MER B shall specify the launch period for the spacecraft. This will clarify the contention and may alter the recommendation for this period.

RESPONSE: Presently the MER B launch period begins June 25 and concludes July 12, 2003.

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 04 | 16 | 2003 | Oct. – Nov. | 43-46 | 34H | RAT | N. Lacey | 10/21/2001 | Closed |

ACTION: Resource Analysis Team shall redistribute the support load so that MER A receives no greater than 20 percent of its support using DSS-55. In addition, MER B noted that they could be scheduled on DSS-55 to support subnet overloads as necessary.

RESPONSE: The Resource Analysis Team has redistributed the planned MER A and MER B support on DSS-55 as specified.

# Action Item Summary

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 05 | 27,31 | 2003 | Sept. – Dec. | 39-51 | 26M | RAT<br>SOHO | N. Lacey<br>R. Bush | 9/14/2001 | Closed |

ACTION: Due to RARB recommended and project acceptance of deletion for the last four weeks of Helio-Seismology Observation (HSO) in 2003, the SOHO project requested another 30-day period earlier in 2003 to replace this lost observation.

RESPONSE: SOHO accepted the alternate recommendation of continuous coverage during weeks 4-7 (Jan. - Feb.) in 2003.

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 06 | 41 | 2004 | January | 1 | 34H | CAS<br>DEEP<br>MER A/B | R. Mitchell<br>J. McKinney<br>J. Erickson | 11/21/2001 | Open |

ACTION:MER A & B in their Approach phase shall resolve contention support from Canberra and Spain in the first 6 days of week 1 in 2004 with Cassini Gravitational Wave Experiment and Deep Impact's use of two 34 meter antennas for initial acquisition (Canberra).

# Action Item Summary

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 07 | 41-44 | 2004 | January | 1-4 | 34H | MER A/B CAS | J. Erickson R. Mitchell | 7/1/2002 | Open |

ACTION:Provide MER A & B Landing Site coordinates. This will allow better planning of antenna usage in January 2004 during surface operations.

| AI# | CP# | Year | Month(s) | Week(s) | Subnet | System | Responsible | Due Date | Status |
|---|---|---|---|---|---|---|---|---|---|
| 08 | 46 | 2004 | January | 1 | 34B1 | MER A NOZO | J. Erickson A. Chang | 10/21/2001 | Pending |

ACTION:MER A to study impact of either removing DSS-24 from EDL array in order to provide post MOI support to Nozomi TCM or to investigate the option of maintaining the array while providing MSPA and uplink support to Nozomi from DSS-24.

RESPONSE: This support should be feasible if DSS-24 is primarily dedicated to Nozomi and the MER A support (X-band RCP signal) will use the Radio Science Receiver (RSR) and should not need the Block V Receiver (BVR). Of course there are many operational considerations and variables in this action that still need to be understood.

# Action Item Summary

| *AI#* | *CP#* | *Year* | *Month(s)* | *Week(s)* | *Subnet* | *System* | *Responsible* | *Due Date* | *Status* |
|---|---|---|---|---|---|---|---|---|---|
| **09** | **47** | **2004** | **January** | **2** | **34B1** | **DEEP MEX** | **J. McKinney R. Horttor** | **2/1/2002** | **Open** |

ACTION:Deep Impact shall evaluate the impact of taking regular gaps in post-launch coverage due to Mars Express Orbiter's post MOI support needs over DSS-54.

| *AI#* | *CP#* | *Year* | *Month(s)* | *Week(s)* | *Subnet* | *System* | *Responsible* | *Due Date* | *Status* |
|---|---|---|---|---|---|---|---|---|---|
| **10** | **49** | **2004** | **January** | **4** | **34B1** | **ULYS** | **I.J. Webb** | **10/21/2001** | **Open** |

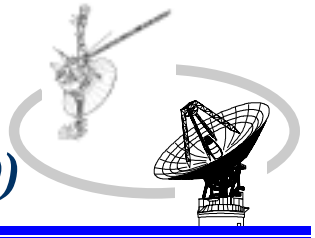
ACTION:Ulysses shall investigate the possibility of using a non-DSN antenna for support or taking a regular two hour gap at Madrid (DSS-54).

## JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE

# Resource Analysis Team

**November 15, 2001**

***Kevin Kim***

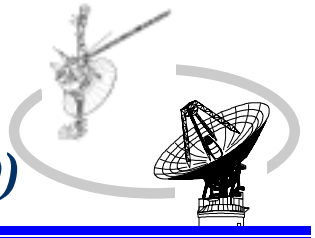


## ◆ RESOURCE NEGOTIATION STATUS

- 2002 WEEK 3 (THRU 01/20/2002) WAS RELEASED TO DSN ON 11/12/2001
- 2002 WEEKS 4 AND 5 (THRU 02/03/2002) IS DUE TO BE RELEASED ON 11/19/2001
- 2002 WEEKS 22 AND 23 (THRU 06/09/2002) WILL GO INTO NEGOTIATIONS STARTING 12/03/2001

- **SPECIAL STUDIES/ACTIVITIES**
  - DEEP IMPACT LOAD STUDY
  - MRO LOAD STUDY
  - MUSES-C PSLA REVIEW

- **ON-GOING ACTIVITIES**
  - MADB/TIGRAS TESTING AND TRAINING
  - GALILEO EXTENDED MISSION STUDY
  - GENESIS BACKUP RETURN STUDY
  - IMAGE EXTENDED MISSION
  - INTEGRAL LAUNCH CHANGE
  - LUNAR-A LOAD STUDY
  - MEX LOAD STUDY
  - MESSENGER LOAD STUDY
  - SGP LOAD STUDY



- **RARB – FEBRUARY 12, 2002**
  - CONTENTIONS TO COVER YEARS 2003 THRU 2005
  - TIMELINE POSTED
  - DISTRIBUTION PACKAGE POSTED

**HTTP://RAPWEB.JPL.NASA.GOV**

# TMOD Resource Implementation Planning Matrix

| Station | Subnet | First Delivery Date | S-Band Down | S-Band Up | X-Band Down | X-Band Up | Ka-Band Down | Ka-Band Up | Ku-Band Up and Down | Close |
|---|---|---|---|---|---|---|---|---|---|---|
| DSS-14 | 70M | XXXX | XXXX | XXXX | XXXX | XXXX | TBD | N/A | N/A | N/A |
| DSS-15 | 34HEF | XXXX | XXXX | N/A | XXXX | XXXX | TBD | N/A | N/A | N/A |
| DSS-16 | 26M | XXXX | XXXX | XXXX | N/A | N/A | N/A | N/A | N/A | N/A |
| DSS-24 | 34B1 | XXXX | XXXX | XXXX | XXXX | 5/1/2003 | 10/1/2005 | N/A | N/A | N/A |
| DSS-25 | 34B2 | XXXX | N/A | N/A | XXXX | XXXX | XXXX | XXXX | N/A | N/A |
| DSS-26 | 34B2 | 4/2/2003 | N/A | N/A | 4/2/2003 | 4/2/2003 | 4/2/2003 | N/A | N/A | N/A |
| DSS-27 | 34HSB | XXXX | XXXX | XXXX | N/A | N/A | N/A | N/A | N/A | N/A |
| DSS-28 | 34B2 | TBD | N/A | N/A | TBD | TBD | N/A | N/A | N/A | N/A |
| | | | | | | | | | | |
| DSS-33 | 11M | XXXX | N/A | N/A | XXXX | XXXX | N/A | N/A | XXXX | 2/1/2002 |
| DSS-34 | 34B1 | XXXX | XXXX | XXXX | XXXX | XXXX | 1/1/2005 | N/A | N/A | N/A |
| DSS-43 | 70M | XXXX | XXXX | XXXX | XXXX | XXXX | TBD | N/A | N/A | N/A |
| DSS-45 | 34HEF | XXXX | XXXX | N/A | XXXX | XXXX | TBD | N/A | N/A | N/A |
| DSS-46 | 26M | XXXX | XXXX | XXXX | N/A | N/A | N/A | N/A | N/A | N/A |
| | | | | | | | | | | |
| DSS-53 | 11M | XXXX | N/A | N/A | XXXX | XXXX | N/A | N/A | XXXX | 2/1/2002 |
| DSS-54 | 34B1 | XXXX | XXXX | XXXX | XXXX | XXXX | 8/1/2006 | N/A | N/A | N/A |
| DSS-55 | 34B2 | 11/1/2003 | N/A | N/A | 11/1/2003 | 11/1/2003 | 11/1/2003 | N/A | N/A | N/A |
| DSS-63 | 70M | XXXX | XXXX | XXXX | XXXX | XXXX | TBD | N/A | N/A | N/A |
| DSS-65 | 34HEF | XXXX | XXXX | N/A | XXXX | XXXX | TBD | N/A | N/A | N/A |
| DSS-66 | 26M | XXXX | XXXX | XXXX | N/A | N/A | N/A | N/A | N/A | N/A |

XXXX = Capability Currently Exists
N/A = Capability Not Planned

10/18/2001

# DSN User / Mission Planning Set
# 2002 - 2012

| ONGOING/PLANNED PROJECTS | | | | |
|---|---|---|---|---|
| **Project** | **Acronym** | **Launch or Start** | **EOPM** | **EOEM** |
| DSN VLBI Clock Sync and Catalog M&E | DSN | -- | -- | -- |
| DSS Maintenance | DSS | -- | -- | -- |
| European VLBI Network | EVN | -- | -- | -- |
| Ground Based Radio Astronomy | GBRA | -- | -- | -- |
| Space Geodyssey | SGP | -- | -- | -- |
| Voyager 2 | VGR2 | 08/20/77 | 10/15/89 | 09/30/05 |
| Voyager 1 | VGR1 | 09/05/77 | 12/31/80 | 09/30/05 |
| Goldstone Solar System Radar | GSSR | 04/01/85 | -- | -- |
| Galileo | GLLO | 10/18/89 | 12/07/97 | 09/21/03 |
| Ulysses | ULYS | 10/06/90 | 09/11/95 | 01/31/04 |
| ISTP - Geotail | GTL | 07/24/92 | 07/24/95 | 09/30/05 |
| ISTP - Wind | WIND | 11/01/94 | 11/01/97 | 09/30/05 |
| Space VLBI | SVLB | 02/01/95 | 12/31/03 | - - - |
| ISTP - SOHO | SOHO | 12/02/95 | 05/02/98 | 12/30/05 |
| ISTP - Polar | POLR | 02/22/96 | 08/23/97 | 09/30/05 |
| Gravity Probe B | GPB | 06/01/96 | 10/31/03 | TBD |
| Mars Global Surveyor | MGS | 11/07/96 | 02/01/01 | 06/01/04 |
| Highly Advanced Laboratory for Communications and Astronomy | VSOP | 02/12/97 | 09/30/01 | 02/28/02 |
| Advance Composition Explorer | ACE | 08/25/97 | 02/01/01 | 01/31/05 |
| Cassini | CAS | 10/15/97 | 06/30/08 | 06/30/10 |
| Nozomi (Planet-B) | NOZO | 07/03/98 | 12/31/05 | TBD |
| Stardust | SDU | 02/07/99 | 01/14/06 | - - - |
| Chandra X-ray Observatory | CHDR | 07/23/99 | 07/23/04 | 07/23/09 |
| Imager for Magnetopause-to-Aurora Global Exploration | IMAG | 03/25/00 | 05/30/02 | 05/30/04 |
| Cluster 2 - S/C #2 (Samba) | CLU2 | 07/16/00 | 02/15/03 | 09/19/05 |
| Cluster 2 - S/C #3 (Rumba) | CLU3 | 07/16/00 | 02/15/03 | 09/19/05 |
| Cluster 2 - S/C #1 (Salsa) | CLU1 | 08/09/00 | 02/15/03 | 09/19/05 |
| Cluster 2 - S/C #4 (Tango) | CLU4 | 08/09/00 | 02/15/03 | 09/19/05 |
| 2001 Mars Odyssey | M01O | 04/07/01 | 08/01/04 | 09/19/07 |
| Microwave Anisotropy Probe | MAP | 06/30/01 | 10/01/03 | 10/01/06 |
| Genesis | GNS | 08/08/01 | 09/08/04 | - - - |
| Comet Nucleus Tour (CONTOUR) | CNTR | 07/01/02 | 09/05/08 | TBD |
| Space Infrared Telescope Facility | SRTF | 07/15/02 | 09/14/07 | - - - |
| RadioAstron* | RADA | 10/01/02 | 10/01/07 | TBD |
| International Gamma Ray Astrophysics Lab | INTG | 10/17/02 | 12/18/04 | 12/18/07 |
| MUSES - C | MUSC | 12/14/02 | 06/05/07 | - - - |
| Rosetta | ROSE | 01/13/03 | 07/10/13 | - - - |
| Mars Express Orbiter | MEX | 05/23/03 | 02/11/06 | 08/03/08 |
| Mars Exploration Rover - A | MERA | 05/30/03 | 04/06/04 | - - - |
| Mars Exploration Rover - B | MERB | 06/27/03 | 05/10/04 | - - - |
| Deep Impact | DEEP | 01/02/04 | 08/05/05 | - - - |
| Messenger | MSGR | 03/10/04 | 04/06/10 | - - - |

* Planning dates

# DSN User / Mission Planning Set

## 2002 - 2012

| ADVANCED PLANNING PROJECTS | | | | |
|---|---|---|---|---|
| **Project** | **Acronym** | **Launch or Start** | **EOPM** | **EOEM** |
| Lunar - A | LUNA | 08/09/03 | 07/18/04 | - - - |
| Mars Reconnaissance Orbiter | MRO | 08/08/05 | 12/31/10 | TBD |
| Stereo Ahead | STA | 11/12/05 | 02/18/08 | 02/18/11 |
| Stereo Behind | STB | 11/12/05 | 02/18/08 | 02/18/11 |
| StarLight | SL | 06/06/06 | 11/30/06 | - - - |
| Mars Smart Lander 2007 | M07L | 09/04/07 | 08/19/10 | TBD |
| Mars Competed Scout 2007 | M07S | 09/04/07 | 11/19/08 | TBD |
| Mars CNES Orbiter 2007 | M07O | 09/09/07 | 08/11/08 | 08/12/10 |
| Mars ASI/NASA Telecommunications Orbiter 2007 | M07T | 09/09/07 | 08/09/18 | TBD |
| ARISE | ARSE | 01/01/08 | 01/01/13 | - - - |
| Highly Advanced Laboratory for Communications and Astronomy | VSP2 | 01/01/08 | 01/01/13 | - - - |
| Europa Orbiter | EURO | 03/15/08 | 03/10/12 | TBD |
| Mars ASI/NASA Science Orbiter 2009 | M09O | 10/04/09 | 08/29/12 | TBD |
| Mars CNES MSR Lander 2011 | M11L | 10/30/11 | 09/10/14 | TBD |
| Mars CNES MSR Orbiter 2011 | M11O | 10/30/11 | 07/22/14 | TBD |

*JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE*

# DSN ANTENNA DOWNTIME STATUS

*Jose Valencia*

*November 15, 2001*

***NASA Jet Propulsion Laboratory***

**DSN Downtime & Test Schedule is located on the RAP WWW Homepage at: http://rapweb.jpl.nasa.gov**

**Although every effort is made to ensure the accuracy of this Downtime Planning report, changes can and do occur. The DSN 7-Day Schedule takes precedence over this document.**

# DSN ANTENNA DOWNTIME STATUS

| MAJOR DSN DOWNTIMES by DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Site | Description | Start | End | Duration (Days) | Weeks | Start DOY | End DOY |
| | | | | | | | | |
| 2001 | DSS 16 | Servo Drive Replacement | 11/19/01 | 12/18/01 | 30 | 47-51 | 323 | 352 |
| | | | | | | | | |
| 2002 | DSS 66 | Servo Drive Replacement | 06/24/02 | 07/21/02 | 28 | 26-29 | 175 | 202 |
| 2002 | DSS 14 | 70M Servo Drive Replacement | 07/15/02 | 09/27/02 | 75 | 29-39 | 196 | 270 |
| 2002 | DSS 14 | NIB - NSP Implementation | 07/15/02 | 09/27/02 | 75 | 29-39 | 196 | 270 |
| 2002 | DSS 24 | NSP Implementation | 10/01/02 | 11/22/02 | 53 | 40-47 | 274 | 326 |
| 2002 | DSS 45 | NSP Implementation | 10/01/02 | 11/22/02 | 53 | 40-47 | 274 | 326 |
| 2002 | DSS 54 | NSP Implementation | 10/01/02 | 11/22/02 | 53 | 40-47 | 274 | 326 |
| 2002 | DSS 24 | NIB - 20 KW X-Band TXR Installation | 10/01/02 | 11/22/02 | 53 | 40-47 | 274 | 326 |
| 2002 | DSS 24 | NIB - KA-Band Encoder Mech Mod-Kit Installation | 10/01/02 | 10/20/02 | 20 | 40-42 | 274 | 293 |
| 2002 | DSS 54 | NIB - KA Band Encoder Mech Mod Kit Installation | 10/01/02 | 10/20/02 | 20 | 40-42 | 274 | 293 |
| 2002 | DSS 43 | 70M Servo Drive Replacement | 11/25/02 | 02/09/03 | 77 | 48-06 | 329 | 040 |
| 2002 | DSS 43 | NIB - Ball-Joint Pad Refurbishment | 11/25/02 | 02/09/03 | 77 | 48-06 | 329 | 040 |
| 2002 | DSS 43 | NIB - NSP Implementation | 12/02/02 | 02/09/03 | 70 | 49-06 | 336 | 040 |
| 2002 | DSS 65 | NSP Implementation | 12/02/02 | 02/09/03 | 70 | 49-06 | 336 | 040 |
| | | | | | | | | |
| 2003 | DSS 63 | 70M Servo Drive Replacement | 02/10/03 | 04/20/03 | 70 | 07-16 | 041 | 110 |
| 2003 | DSS 63 | NIB - Ball-Joint Pad Refurbishment | 02/10/03 | 04/20/03 | 70 | 07-16 | 041 | 110 |
| 2003 | DSS 63 | NIB - NSP Implementation | 02/10/03 | 04/06/03 | 56 | 07-14 | 041 | 096 |
| 2003 | DSS 25 | NSP Implementation | 02/10/03 | 04/06/03 | 56 | 07-14 | 041 | 096 |
| 2003 | DSS 34 | NSP Implementation | 02/10/03 | 04/06/03 | 56 | 07-14 | 041 | 096 |
| 2003 | DSS 25 | NIB - 20 KW X-Band TXR Installation | 02/10/03 | 04/06/03 | 56 | 07-14 | 041 | 096 |
| 2003 | DSS 34 | NIB - 20 KW X-Band TXR Installation | 02/10/03 | 04/06/03 | 56 | 07-14 | 041 | 096 |
| 2003 | DSS 34 | NIB - KA-Band Encoder Mech Mod-Kit Installation | 02/10/03 | 03/02/03 | 21 | 07-09 | 041 | 061 |
| 2003 | DSS 15 | Antenna Controller Replacement | 03/03/03 | 05/04/03 | 63 | 10-18 | 062 | 124 |
| 2003 | DSS 15 | NIB - NSP Implementation | 03/05/03 | 05/01/03 | 58 | 10-18 | 064 | 121 |
| 2003 | DSS 46 | Servo Drive Replacement | 05/05/03 | 06/01/03 | 28 | 19-22 | 125 | 152 |
| 2003 | DSS 54 | 20 KW X-Band TXR Installation | 07/21/03 | 08/31/03 | 42 | 30-35 | 202 | 243 |
| 2003 | DSS 45 | Antenna Controller Replacement | 09/08/03 | 10/25/03 | 48 | 37-43 | 251 | 298 |
| | | | | | | | | |
| 2004 | DSS 65 | Antenna Controller Replacement | 05/10/04 | 06/27/04 | 49 | 20-26 | 131 | 179 |
| 2004 | DSS 14 | Antenna Controller Replacement | 07/05/04 | 10/03/04 | 91 | 28-40 | 187 | 277 |

# DSN ANTENNA DOWNTIME STATUS

- CHANGES SINCE LAST JURAP
  - DSS-16 Servo Drive Replacement
    - 2 days have been added to task

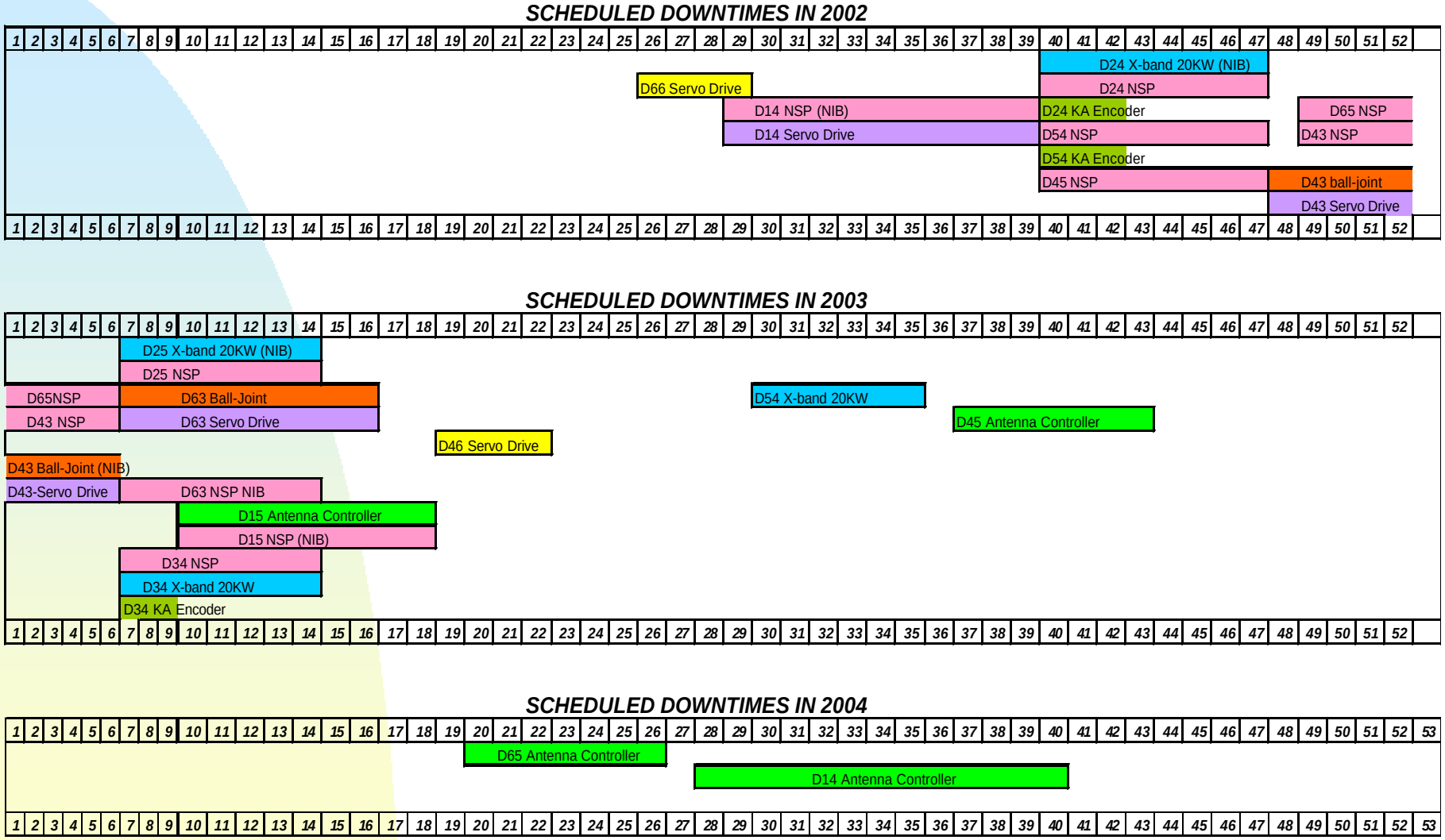
# DSN ANTENNA DOWNTIME STATUS

- TASKS IN PROGRESS OR TASKS REMAINING IN 2001
  - DSS-16 Servo Drive Replacement
    - 11/19/01 to 12/18/01

# DSN ANTENNA DOWNTIME STATUS

- SCHEDULED 34M TASKS IN 2002
  - DSS-24
    - NSP
    - 20KW X-band (NIB)
    - KA band encoder (NIB)
  - DSS-54
    - NSP
    - KA band encoder (NIB)
  - DSS-65
    - NSP

# DSN ANTENNA DOWNTIME STATUS



## *JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE*

# *DSN Operations*

***Jim Hodder***

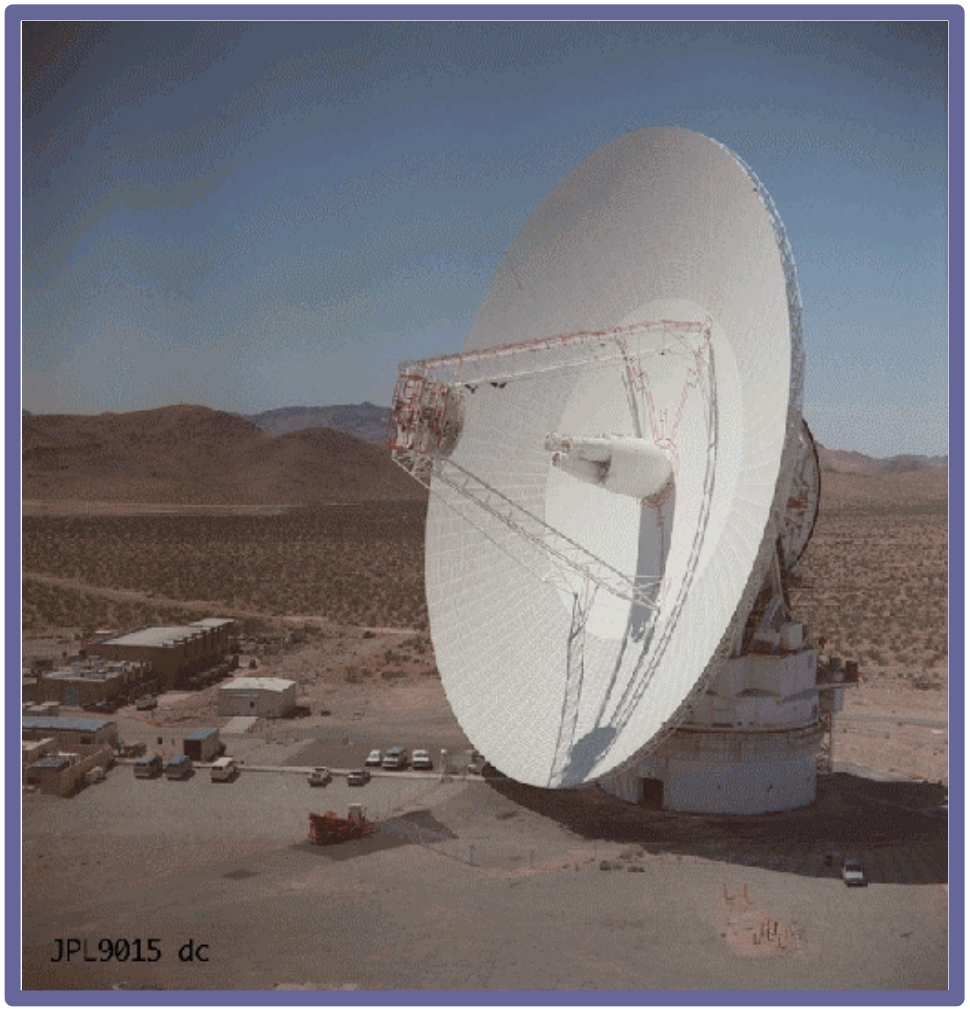
**November 15, 2001**

*NASA Jet Propulsion Laboratory*

# DSN System Availability

| Data Type | August 2001 | September 2001 |
|---|---|---|
| Telemetry | 98.8% | 99.0% |
| Tracking | 97.5% | 98.7% |
| Command | 98.4% | 99.0% |
| Monitor | 99.1% | 99.2% |
| Radio Science | 100% | 97.6% |
| VLBI | 96.1% | 99.5% |

# Goldstone Solar System Radar



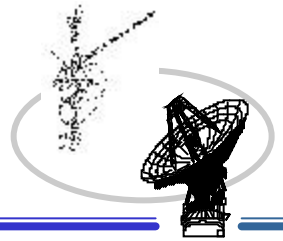

*Martin A. Slade*

*November 15, 2001*

***NASA Jet Propulsion Laboratory***

***Joint Users Resource Allocation Planning Committee Meeting***

# *Goldstone Solar System Radar (GSSR)*



• New observations in support of science goals of the MESSENGER mission have been highly rated by external peer reviewers. The initial tests of the techniques involve two-station observations between DSS-14 and the 100-m Greenbank Telescope (GBT). The dates for these observations are given in the table below:

| DOY | UT date | UT window | activity |
|---|---|---|---|
| 133 | 2002 MAY 13 | 20:00 - 22:00 | speckle correlation maximum 21:21:12 |
| 142 | 2002 MAY 22 | 20:00 - 01:00 | speckle correlation maximum 20:54:40<br>00:20 closure with 2006 OCT 18 21:40 |
| 153 | 2002 JUN 02 | 18:00 - 21:00 | speckle correlation maximum 20:17:36<br>19:00 closure with 2004 SEP 16 13:40 |
| 163 | 2002 JUN 12 | 19:00 - 23:00 | speckle correlation maximum 19:35:06<br>22:40 closure with 2008 OCT 07 15:20 |

**GSSR/Greenbank Telescope Request for MESSENGER Support**

Joint Users Resource Allocation Planning Committee

# Radio Astronomy and Special Activities

*George Martinez*

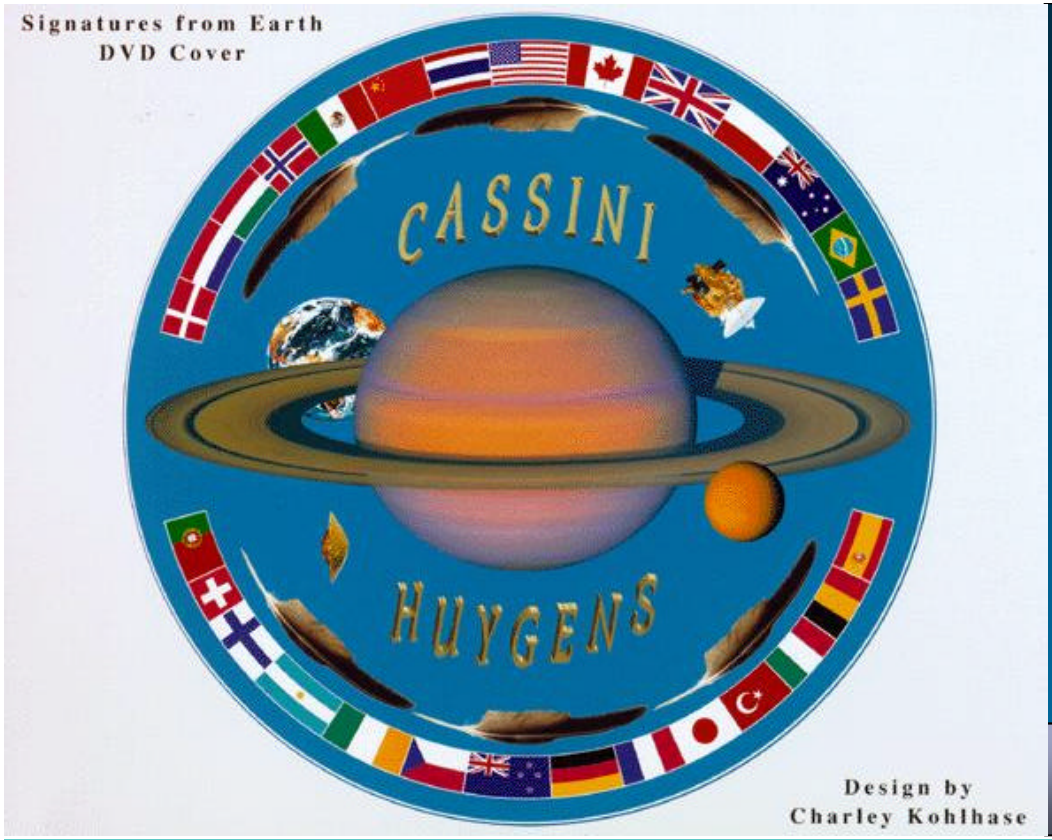
*November 15, 2001*

# TEMPO
## (Time and Earth Motion Precision Observations

- Clock Sync
  - DOY 276
    - No problems were reported by either DSS-15 or DSS-65.
    - Tapes sent to JPL correlator for processing.
  - DOY 291
    - No problems were reported by either DSS-15 or DSS-65.
    - Tapes sent to JPL correlator for processing.
  - DOY 304
    - DSS-15 reported a vacuum failure in the VLBA recorder.
    - DSS-65 reported that the antenna stopped.
    - Tapes sent to JPL correlator for processing.
  - Metrics
    - 3 observations – 98.3 %

# Gravity Probe - B

- **BR071C**
  - **Guide star survey for the Gravity Probe-B mission to determine an extremely accurate position (Astrometry) for radio source HR8703 and the measurement of its proper motion in an inertial frame.**
  - **No problems were reported by DSS-63.**
  - **DSS-43 reported an EAC problem.**
  - **DSS-14 reported an antenna problem that resulted in 1 lost source.**
  - **97% of time utilized.**
  - **Tape sent to the Bonn Correlator for processing.**




CASSINI

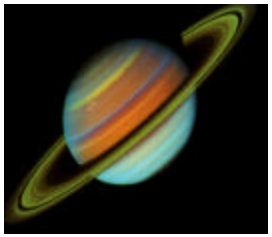
http://www.jpl.nasa.gov/cassini/

# Joint Users Resource Allocation Planning (JURAP) Committee Meeting

**Dave Doody**

**November 15, 2001**

*NASA / Jet Propulsion Laboratory*



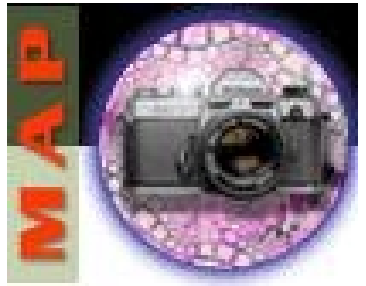
# Cassini

- In Quiet Cruise Subphase through 8 July 2002
  - S/C remains HGA-to-Earth except for specific short activities
- Operations are Basically Nominal
  - Excellent DSN suppor
    - RNG problem continues under investigation
    - NOP still being revised
    - Minor anomalies worked in real time, minimal data loss
  - Minor S/C instrument anomalies being worked and recovered near real time
  - Additional Huygens Probe Relay S-band U/L tests using DSS24 in progress
  - Emergency Control Center exercise scheduled for 20 November
  - JPL Information Technology Security Implementation Task requires daily status reports
- Gravitational Wave Experiment (GWE) Begins This Month
  - DSMS Readiness Review Completed 14 November
  - Experiment runs 26 November 2001 through 5 January 2002
    - 24 hours/day, 7 days/week DSN coverage for 40 days and 40 nights
    - Cassini's first prime mission science

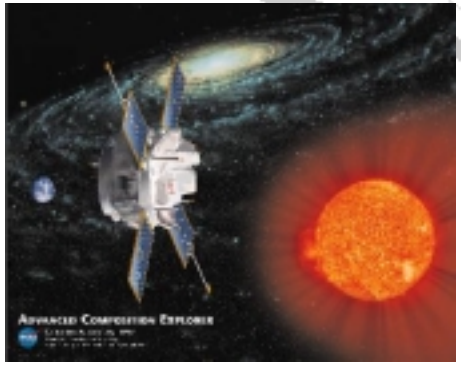
INTERPLANETARY NETWORK AND INFORMATION SYSTEMS DIRECTORATE

# Flight Project Report

# MAP/ACE/IMAGE




http://map.gsfc.nasa.gov/

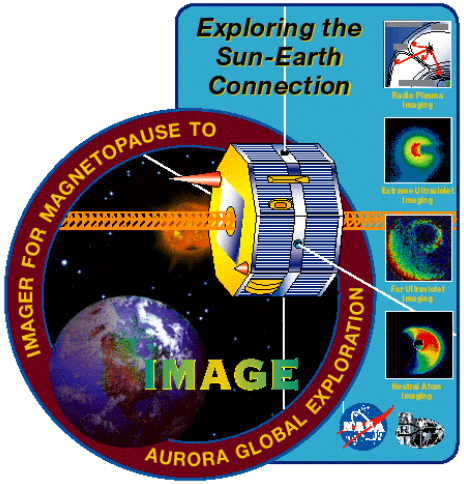


http://www.srl.caltech.edu/ACE/


**Steve Waldherr**
**TMS Manager**


**November 15, 2001**

JPL




http://pluto.space.swri.edu/IMAGE/

# MAP

- Spacecraft operations continue nominally in Science mode.
- Project declared spacecraft emergency on DOY 310/1521Z (6 November). The spacecraft had entered into safe mode. Suspected cause was a solar flare. The project was able to do a full recovery from a power reset of the spacecraft Command and Data Handling processor. Project cancelled the spacecraft emergency and was back in the science mode within 4.5 hours of detecting the problem. Project related that the rapid response from DSN operations and scheduling was excellent. Project also stated the overall DSN support of this emergency was outstanding.

- UPL D2 Demos on hold due to D2 software anomaly.

# ACE

- ACE operations continue nominally
- ACE 26-meter Automation Demos are continuing
- UPL D2 Demos on hold due to D2 software anomaly
- Project, with the help of other projects and DSN scheduling was able to work around the DSS-16 down time.

# IMAGE

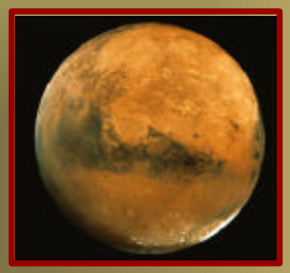
- Spacecraft operations continue nominally
- 26-meter automation demos are almost complete
- UPL D2 Demos on hold due to D2 software anomaly

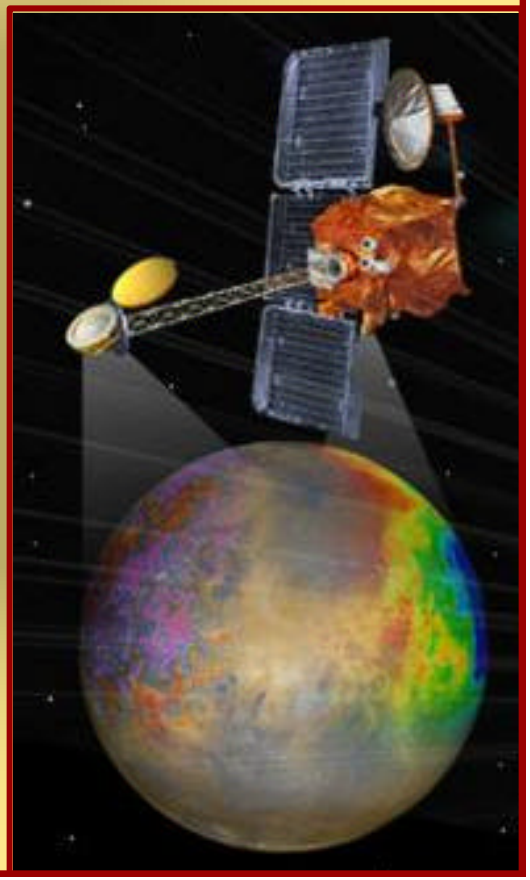
# Mars Global Surveyor

## Flight Operations Status


Presentation to the

**Joint Users Resource Allocation Planning (JURAP) Meeting**

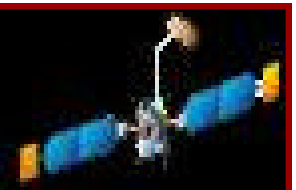




**E. E. Brower**

**November 15, 2001**

http://mars.jpl.nasa.gov/missions/present/globalsurveyor.html

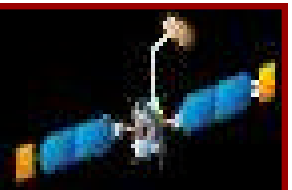


# AGENDA

- **Program / Project Status**
- **Recent Events/Accomplishments**
- **Mission Assessment**
- **Issues**

# JPL Mars Global Surveyor

## Program / Project Status



| Technical | | | | Schedule | | | | Resources | | | | Programmatic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JUL | AUG | SEP | OCT | JUL | AUG | SEP | OCT | JUL | AUG | SEP | OCT | JUL | AUG | SEP | OCT |
| G | G | G | G | G | G | G | G | G | G | G | G | G | G | G | G |

Detailed Description: (for items identified as yellow or red)

**Technical:**

**Schedule:**

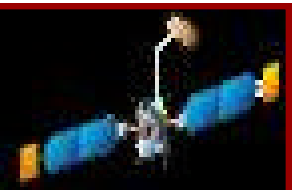
**Resources:**

**Programmatic:**

NOTE: This is a rolling 4-month picture

| | |
|---|---|
| G | No current problem<br>All commitments can be met |
| Y | Major problem<br>Identified solution<br>Commitment is in jeopardy |
| R | Major problem<br>No identified solution<br>Commitment cannot be met |

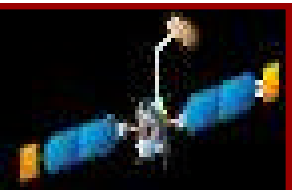
*MGS*



# Events

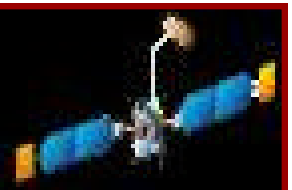
**Last 3 Months:**

| | |
|---|---|
| – Relay16 orientation | Aug 15 |
| – Delta DOR for MER | Aug-Sep |
| – C-mode entry | Sep 6 |
| – C-mode recovery/causal reviews | Sep 8, 17, 20 |
| – MOLA Diagnostic Test #4 | Sep 12 |
| – Microphonics test | Oct 6 |
| – MOLA Diagnostic Test #5 | Oct 10 |
| – MOC focus tests | Oct 8-15 |
| – A/B 4/d playback sequences began | Oct 17 |
| – C-mode entry | Oct 19 |
| – C-mode recovery/causal reviews | Oct 22, 30 |
| – Odyssey A/B support initiation | Oct 23 |



## Recent Accomplishments

- **Spacecraft began fifth year of orbital operation on September 11, 2001**
- **207 ROTO sequences executed to date. ROTO during comm. periods capability implemented Sept. 26. Seven performed to date**
- **Spacecraft went into contingency mode on Sept. 6, and Oct. 19. STAREX converged on bad star following ROTO sequence. Return to full operations within in three days. No ROTOs during 1st month of Odyssey support.**
- **Special MGS issue of JGR ready for November release. One-year mapping report: 28 papers (>600 pages).**
- **Dust storm press conference held Oct. 11.**
- **Planetary Quarantine report submitted to PQ Officer.**
- **Second year mapping archive completed.**

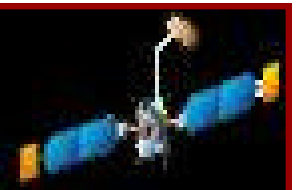


# Recent Accomplishments (Cont'd)

## E2 Mission Extension Proposal/budget submitted:

- Relay engineering data during descent of MER vehicles and UHF relay during landed operations.
- Observations for site selection by MER/future missions
- Observations of new areas of the planet (<0.5% imaged at high resolution), continuing observations to assess inter-annual climate variation and multi-mission context/cooperative experiments

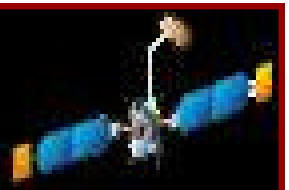
| | |
|---|---|
| C-mode Recovery Procedure Review | Aug 15 |
| PSG at JPL | Sep 6 |
| MMR | Sep 19 |
| MER Landing site workshop | Oct 17-18 |
| MOLA Radiometry Mode decision | Nov 15 |



# Upcoming Events

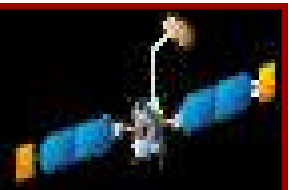
- **Next 12 Months:**

| | |
|---|---|
| – **MMR** | **Nov 14** |
| – **E2 Mission authorization** | **TBD** |
| – **STAREX/ROTO problem resolution** | **Nov 30** |
| – **PQ Report approval by PQ Officer** | **TBD** |
| – **Odyssey A/B support** | **Oct 23 - Jan, 2002** |
| – **Beta Supplement** | **Mar 20** |
| – **End of extended mission (E1)** | **Apr 22** |
| – **E2 Mission start** | **Apr 22** |



## Mission Assessment

- **Spacecraft is in good health.**
- **UHF tests on June 25-28 to confirmed relay health.**
- **Expect to fulfill most extended mission objectives (complete MER site coverage may become E2 mission objective).**
- **Expect to satisfy MER EDL requirements.**
- **Chances of operation through 2004 are good.**



## Issues

- **None**

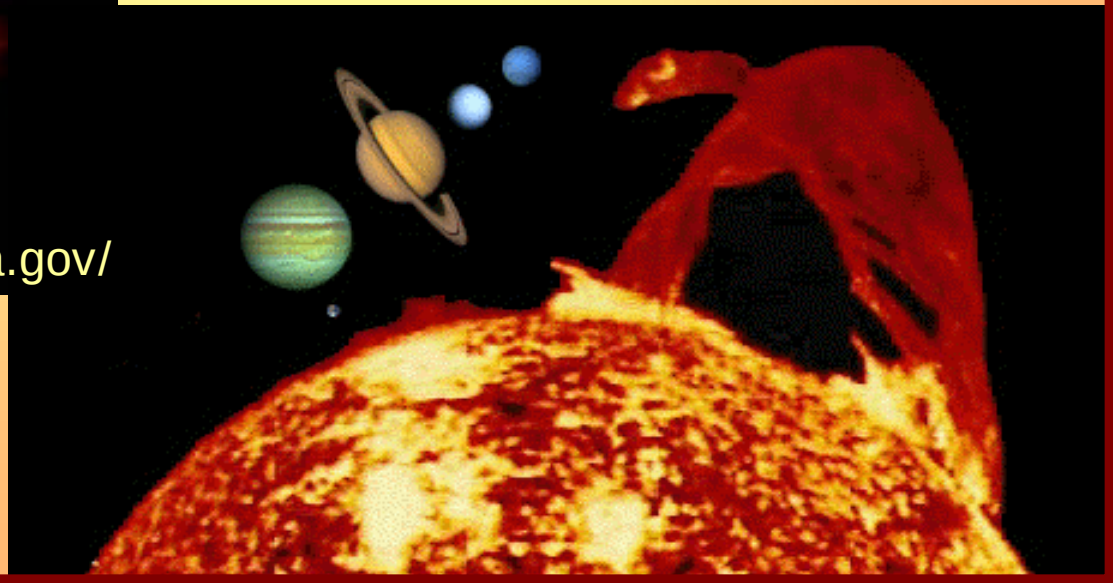
ulysses

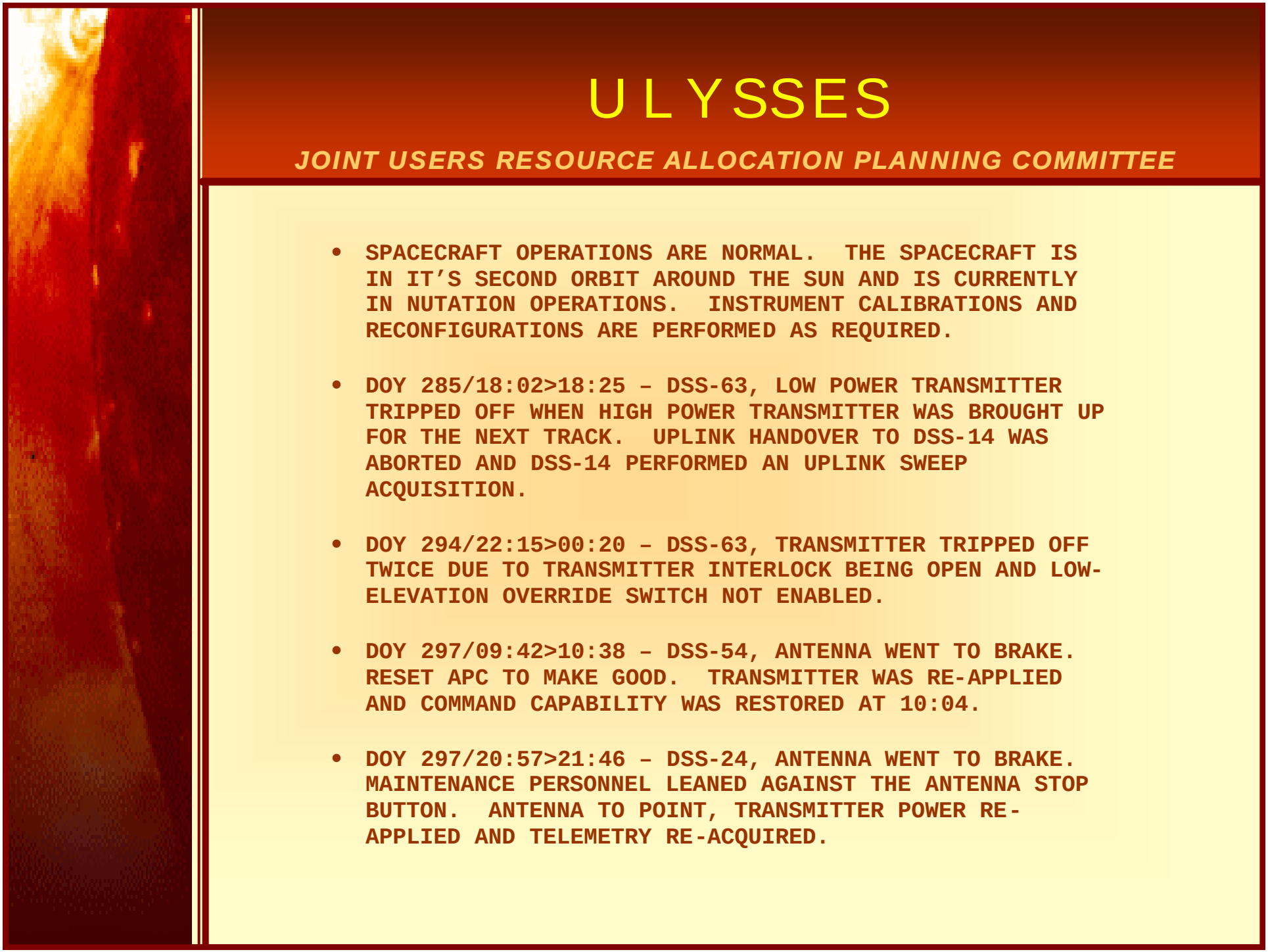
# JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE


I. J. Webb

November 15, 2001

*NASA Jet Propulsion Laboratory*





# ULYSSES

## *JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE*

- SPACECRAFT OPERATIONS ARE NORMAL. THE SPACECRAFT IS IN IT'S SECOND ORBIT AROUND THE SUN AND IS CURRENTLY IN NUTATION OPERATIONS. INSTRUMENT CALIBRATIONS AND RECONFIGURATIONS ARE PERFORMED AS REQUIRED.

- DOY 285/18:02>18:25 – DSS-63, LOW POWER TRANSMITTER TRIPPED OFF WHEN HIGH POWER TRANSMITTER WAS BROUGHT UP FOR THE NEXT TRACK. UPLINK HANDOVER TO DSS-14 WAS ABORTED AND DSS-14 PERFORMED AN UPLINK SWEEP ACQUISITION.

- DOY 294/22:15>00:20 – DSS-63, TRANSMITTER TRIPPED OFF TWICE DUE TO TRANSMITTER INTERLOCK BEING OPEN AND LOW-ELEVATION OVERRIDE SWITCH NOT ENABLED.

- DOY 297/09:42>10:38 – DSS-54, ANTENNA WENT TO BRAKE. RESET APC TO MAKE GOOD. TRANSMITTER WAS RE-APPLIED AND COMMAND CAPABILITY WAS RESTORED AT 10:04.

- DOY 297/20:57>21:46 – DSS-24, ANTENNA WENT TO BRAKE. MAINTENANCE PERSONNEL LEANED AGAINST THE ANTENNA STOP BUTTON. ANTENNA TO POINT, TRANSMITTER POWER RE-APPLIED AND TELEMETRY RE-ACQUIRED.

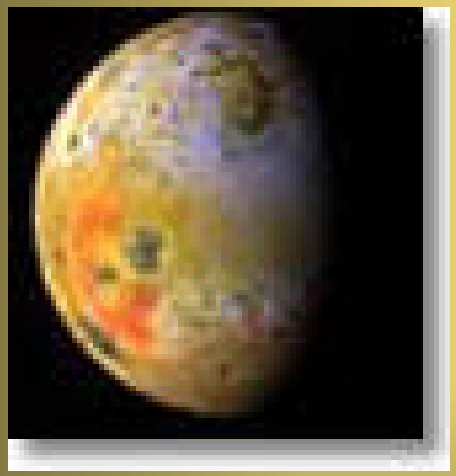
# ULYSSES

## *JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE*

- DOY 310/19:26>20:06 – DSS-24, ANTENNA WENT TO BRAKE DUE TO A POWER SUPPLY FAILURE. ANTENNA WENT BACK ON-POINT, TRANSMITTER BACK ON AND COMMAND MODE ON AT 20:06. THE FAILURE OCCURRED WHILE CLOSED LOOP CONSCAN WAS ENABLED AND THE TRANSMITTER FLUCTUATIONS RESULTED IN THE NEED TO PERFORM A "SOLACE" TO REDUCE NUTATION.

- DOY 311/14:37>21:45 – DSS-14, UPLINK LOST WHEN TRANSMITTER LOST INTERFACE, NO ETO. DSS-15 WAS BROUGHT UP TO PROVIDE DOWNLINK FROM 16:14>19:25. DSS-54 WAS BROUGHT UP TO PROVIDE UPLINK AND DOWNLINK FROM 18:45>21:34. AT 21:45 DSS-14 WAS GREEN WITH THE REPLACEMENT OF THE ETHERNET HUB. DSS-14 THEN PERFORMED A HANDOVER WITH DSS-54. A "SOLACE" MANEUVER WAS PERFORMED AT 20:20 IN EXPECTATION OF A LONG PERIOD WITHOUT AN UPLINK.


# JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE



**Brad Compton**

**November 15, 2001**

**NASA Jet Propulsion Laboratory**

*http://galileo.jpl.nasa.gov/*

# GALILEO EUROPA MISSION

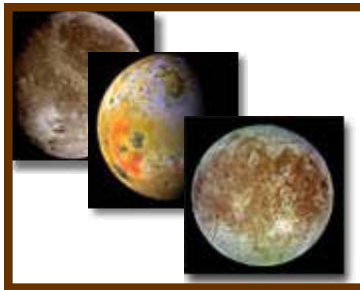
## ROUTINE ACTIVITIES

- Propulsion maintenance activity
- DMS conditioning
- Gyro performance test
- Science instrument MROs

# GALILEO EUROPA MISSION

## SIGNIFICANT EVENTS

- Performed an Orbit Trim Maneuver (OTM-103)
- Completed collecting continuous fields and particles data through October 26 at which time we initiated I-32 playback
- During a standard tape recorder (DMS) conditioning activity on 11/13/01, fault protection in the tape manager tripped, locking out subsequent tape commands.



# GALILEO EUROPA MISSION

## PROJECT PLANS

- Resolve DMS anomaly, restart playback
- Continue routine activities
- Next encounter I-33 on 17 January – planned altitude of 100 km (closest yet)

# Joint Users Resource Allocation Planning Meeting

SPECTRUMASTRO


K. Moyd

November 15, 2001

http://nmp.jpl.nasa.gov/ds1/


# DS1 Status

## Previous Month's Activities and Current Status

- First Ion engine test ("Plume Mode Survey") conducted October 23.
- Calibration of IR Spectrograph scheduled for October 30.
- Second Ion engine test ("Ion Optics") conducted November 6.
- Ion optics test repeated November 11 because of incorrect parameters on November 6 test.
- Ka-band has been on to support DSN testing. So far, none has been done.
- Ranging is being left on between tracks to support DSS 26 ranging tests. So far, none have been done.

JPL

SPECTRUMASTRO


# DS1 Status

## Telecom Problems

- 70-meter stations not available at beginning of tracks for three consecutive weeks. Twice due to station problems; once due to MAP emergency.
  - In all three cases the 70-meter was replaced by a 34-meter and the 70-meter was restored prior to end of track. However, the data return was significantly lower than planned.
  - Caused us to turn PEPE, our Fields and Particles instrument off, because we could not get the data down.
- Rain in Australia caused loss of data several times. This was compounded by the loss of DSS 43 at the beginning of the November 6 track.
- Several times DSS 15 had problems with initial subcarrier acquisition, despite plenty of margin.

JPL

SPECTRUMASTRO


# DS1 Status

## Near Term Plans

- Additional Ion engine tests will be done during the rest of November and early December.
- Solar panel tests and operation of several of our new technologies will also be done.
- It has been decided that DS1 will not be sent to 1999KK1 for an encounter next August.
- Current plan is to turn off the spacecraft December 18.

JPL

SPECTRUMASTRO

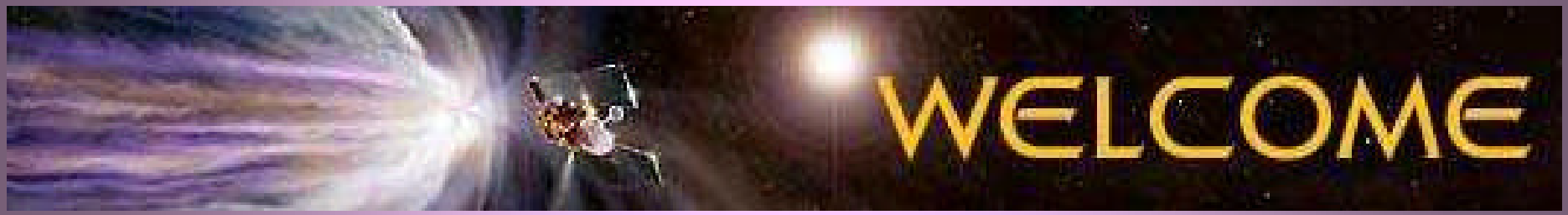

# DS1 Status

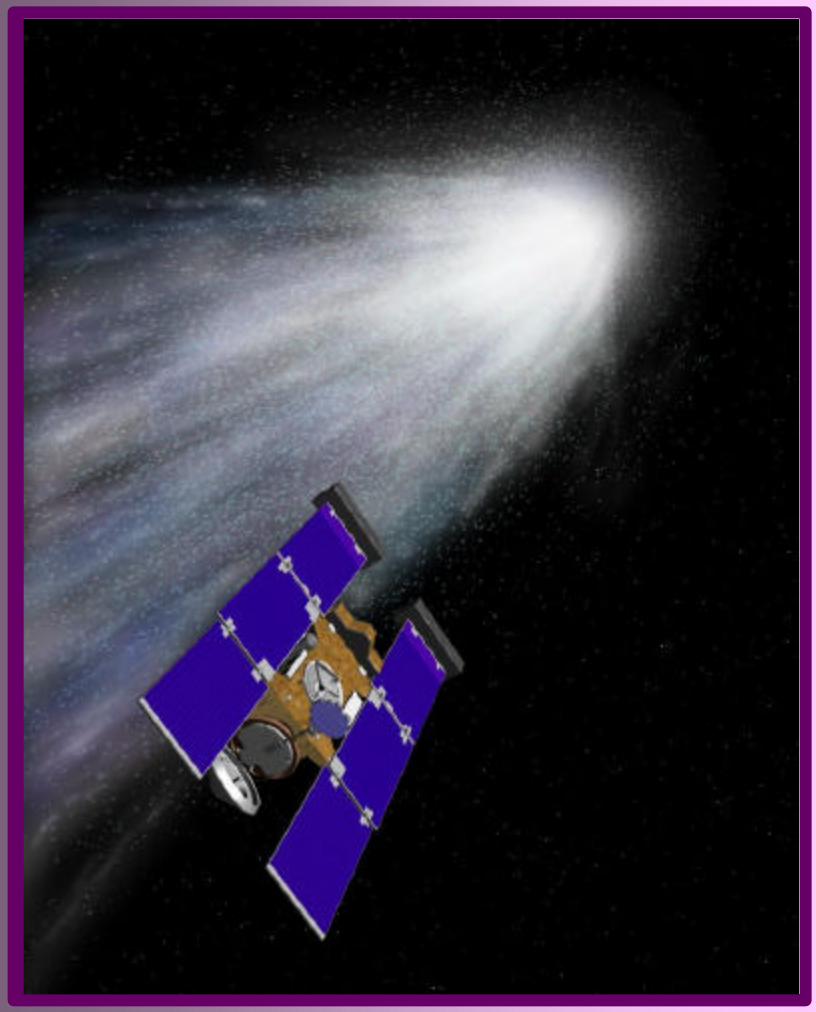
## Other Information

- Results from the Borrelly encounter will be presented at the DPS meeting the week of November 26. New images should be posted to the web shortly thereafter. There should be a press release containing the URL.

JPL

SPECTRUMASTRO



# STARDUST

## JOINT USERS
## RESOURCE ALLOCATION
## PLANNING COMMITTEE

R. E. Ryan

November 15, 2001

NASA Jet Propulsion Laboratory

***http://stardust.jpl.nasa.gov***

# STARDUST

## Report to JURAP

## STATUS

**SPACECRAFT IS HEALTHY (11/15/01)**

**PRESENTLY 3.39 AU from EARTH**

**00:56:00 RTLT**

**2.5 AU from SUN**

**Will reach 3.6 in Jan '02**

- **SPACECRAFT IS IN NOMINAL CRUISE**
  - **BIT RATE IS AT 252 bps (on HGA)**
  - **EXCELLENT NAV CAM IMAGE ON 10/29**
    - **CHECKING THE SUN ANGLE STRAY (REFLECTED) LIGHT**
  - **WE ARE FARTHER FROM THE SUN THAN ANY U.S. SOLAR POWERED SPACECRAFT, HEADING FOR 2.72 AU.**
    - **THE SOLAR PANELS ARE PREFORMING BETTER THAN EXPECTED**

# STARDUST

## Report to JURAP

- **CURRENT ACTIVITIES**
  - **ON-GOING EFFORT ON SPACECRAFT FLIGHT SOFTWARE PATCHES**
  - **PLANNING AND TESTING FOR ENCOUNTER**
    - **REVIEWING ENCOUNTER PLANNING**
    - **POSSIBLE USE OF ANNEFRANK (11/02) AS READINESS TEST FOR COMET WILD-2 OPTICAL NAVIGATION**
    - **WORKING ISSUES AND PLANS FOR THE APPROVAL PROCESS**
- **IPN-ISD SUPPORT HAS BEEN GOOD THIS PAST PERIOD**



## UPCOMING EVENTS

**SUPERIOR CONJUNCTION ON DECEMBER 25**

Earth 3.5 AU

Sun 2.6 AU

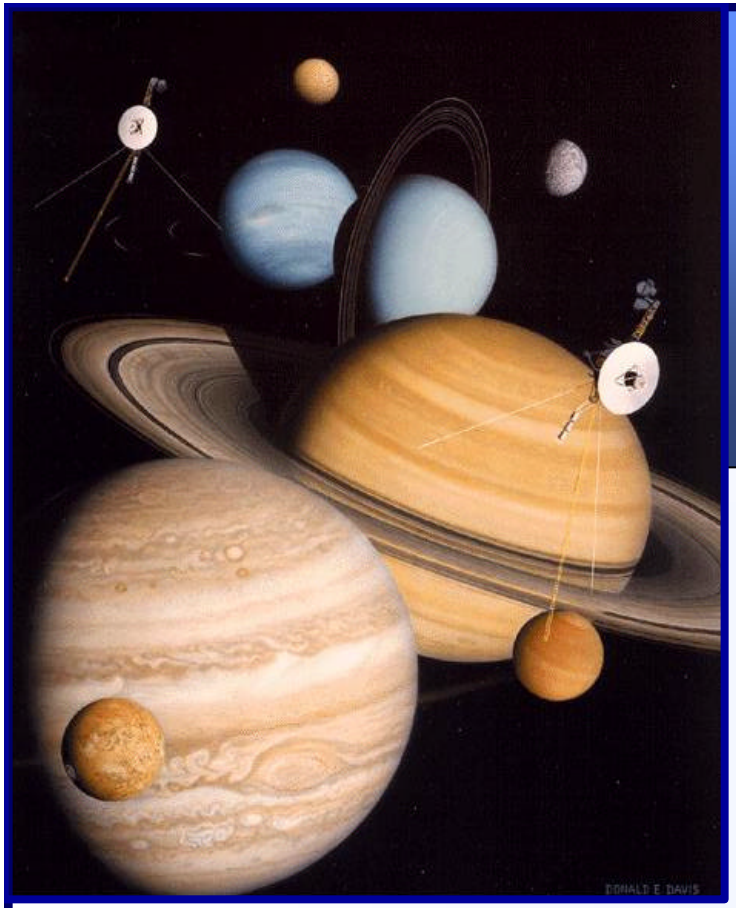
One Degree SEP

**DSM-2 (TCM-7) March 13, 2002**

**MAXIMUM SOLAR RANGE, 2.72 AU, APRIL 18, 2002**

**CHECK OUT OUR HOMEPAGE:**

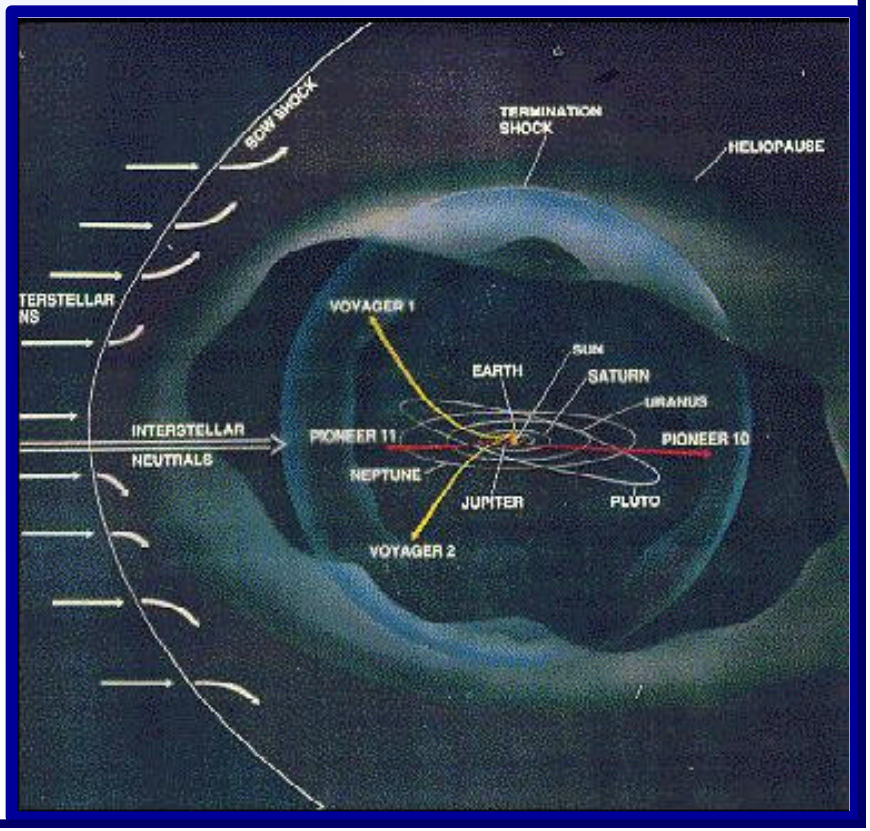
**http://stardust.jpl.nasa.gov**



# VOYAGER

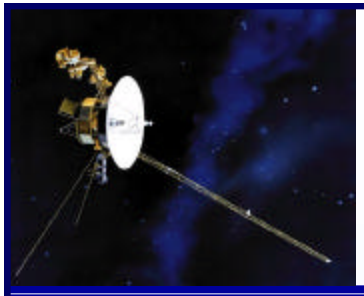
## FLIGHT OPERATIONS

## JOINT USERS RESOURCE ALLOCATION PLANNING COMMITTEE




**J. C. Hall, Jr.**
**November 15, 2001**
***NASA Jet Propulsion Laboratory***

***http://vraptor.jpl.nasa.gov***



# VOYAGER

## FLIGHT OPERATIONS

JPL

# FLIGHT SYSTEM STATUS

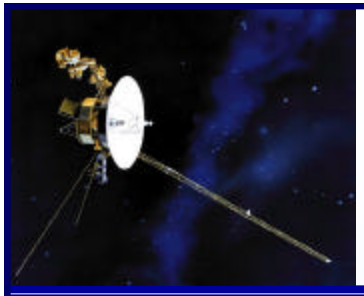
## MISSION STATUS

### VOYAGER 1

- HELIOCENTRIC DISTANCE – 82.9 AU, RTLT – 23h10m38s
- SPACECRAFT REMAINS HEALTHY
- MAJOR ACTIVITY: MAGROL, ASCAL, PLAYBACK

### VOYAGER 2

- HELIOCENTRIC DISTANCE – 65.6AU, RTLT – 18h17m14s
- SPACECRAFT REMAINS HEALTHY
- MAJOR ACTIVITY: MAGROL



# VOYAGER

## FLIGHT OPERATIONS

JPL

## GROUND SYSTEM STATUS

(October 13, 2001 - November 9, 2001)

**DSN** - OVERALL SUPPORT – GOOD

**TOTAL SUPPORT TIME, OUTAGE TIME, % of OUTAGE TIME**

| S/C | SCHED SUPPORT | ACTUAL SUPPORT | 70M TIME | SIGNIFICANT OUTAGE TIME | % of OUTAGE TIME |
|---|---|---|---|---|---|
| 31 | 262.2 | 260.9* | 76.4 | 11.0 (1.9) | 4.9 |
| 32 | 260.3 | 260.3 | 69.4 | 0.0 (1.8) | 0.7 |

***Released 3.8 hours of DSS-54 support to MAPP.**

**VOYAGER HOMEPAGE - http://vraptor.jpl.nasa.gov**